



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/757,388 | 01/15/2004 | Takeshi Kobayashi | 61282-055 | 4950 |

7590 06/10/2005

McDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

| |
|----------|
| EXAMINER |
|----------|


NGUYEN, DILINH P

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2814

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|---|--|
| Office Action Summary | Application No. 10/757,388 | Applicant(s) KOBAYASHI ET AL.  | |
| | Examiner DiLinh Nguyen | Art Unit 2814 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 11-18 and 27-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected claim. Election was made without traverse in the reply filed on 3/7/05.

Applicant's election of Embodiment 1, figs. 1A-7C in the reply filed on 5/19/05 is acknowledged. Therefore, the method claims 11, 27-29 and 31 are withdrawn from consideration as being directed to a non-elected claims.

Claim Objections

Claim 5 recites the limitation "the first conductor layer" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kweon et al. (U.S. Pat. 5900676).

Kweon et al. disclose a lead frame comprising:

a lead frame body 40 (fig. 4) comprising a sheet shaped body made of metal

(column 5, lines 41-42);

Art Unit: 2814

a groove portion 24a (fig. 11) for forming a lead which is formed by a predetermined depth in a lead forming region of a surface of the lead frame body; and a lead 24 (fig. 11) formed so that the lead can protrude from the groove portion onto the surface of the lead frame body, the lead being made of material different from material of the lead frame body (column 5, lines 15-18).

- Regarding claim 2, Kweon et al. disclose that the lead including: a first conductor layer 150 formed in the groove portion, a second conductor layer 24 formed on the first conductor layer; and a third conductor layer 40 formed on the second conductor layer, wherein: the first conductor layer is assembled to an assembling member, and the third conductor layer 40 is assembled to a bonding pad of a semiconductor chip 110 (cover fig., column 7, lines 6-10).
- Regarding claim 3, Kweon et al. disclose that the first conductor layer covers an entire inner wall of the groove portion (cover fig. and fig. 11).
- Regarding claim 5, Kweon et al. disclose that the lead includes a barrier layer 150 for suppressing a reaction between the lead frame body 22 and a first conductor layer 24, the barrier layer being provided between the first conductor layer and the groove portion (cover fig.).
- Regarding claim 19, Kweon et al. disclose a semiconductor device comprising: a semiconductor chip 110; a lead 24 connected to the semiconductor chip; and

Art Unit: 2814

a piece of sealing resin 140, wherein a portion of the reverse face of the lead protrudes from a principal plane of the piece of sealing resin, and the lead is a thin film formed from the outer face side to the inner face side (cover fig.).

- Regarding claim 20, Kweon et al. disclose that the lead including: a first conductor layer 150; a second conductor layer 24 laminated inside the first conductor layer; and a third conductor layer 40 formed inside the second conductor layer, wherein an entire surface of the lead, which is exposed from the sealing resin, is covered with the first conductor layer (cover fig.).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DiLinh Nguyen whose telephone number is (571) 272-1712. The examiner can normally be reached on 8:00AM - 6:00PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DLN

A handwritten signature in black ink, appearing to read 'Hoai Pham', with a stylized, flowing script.

**HOAI PHAM
PRIMARY EXAMINER**